REMARKS

The Examiner's action of April 19, 2005 is noted in which Claims 9-15 are rejected under 35 USC 112, 35 USC 101 and 35 USC 103.

Applicants have amended Claim 9 to recite providing an ultra-wide bandwidth monopole antenna in spaced adjacency to a ground plane, and rather than claiming "increasing" the size of a monocone the claim now specifies sizing the monocone in terms of height, cone angle and apex base to provide a greater than 10:1 frequency ratio for the antenna.

As such, Applicants are not claiming a "dynamic" monocone antenna and is not "increasing" or "decreasing" the size of anything. It is Applicants' contention that the changes to Claim 9 remove the 35 USC 112 rejections.

Also as to the rejection of the claims under 35 USC 101, Applicants are not claiming a scientific principle devoid of tangible structure. Applicant is claiming a particular structure having a particular size that effectuates the ultra-wide bandwidth.

It is noted, especially with aircraft, that one normally uses a monopole wire or rod antenna above a ground plane, namely a wing, to establish communications or at least the receipt of radio wave signals.

The problem with simply sticking up a wire from a wing (ground plane) is that this type of monopole antenna is exceedingly narrow-banded.

What Applicants have done is to recognize that one can flare out the wire and get as much as an 18:1 frequency ratio for the monopole antenna.

It is noted that the monopole antenna is fed between the apex of the cone and the ground plane.

This is totally unlike the discone antennas of Rappaport and Wong. In the first place, neither the Rappaport nor the Wong antennas are dependent on or have a ground plane. Secondly, Rappaport feeds the disc, not the cone. The Rappaport cone is part of a parasitic design and is not directly fed. The same is true for Wong, even though he calls his antenna a monocone antenna. Perhaps the reason he calls his antenna a monocone antenna is because he wants to distinguish whatever he is doing from a double cone or bicone antenna.

Because neither Rappaport nor Wong directly feed the cone and because neither Rappaport nor Wong have a ground plane, the equations in either of the two references are simply not applicable.

Moreover, Rappaport says that he can change the flare angle by as much as 30°. It is a finding of the subject invention that the flare angle is critical and a change of 30° would cause the claimed antenna to fail.

Further, with respect to Rappaport, Rappaport uses a top plate for capacitance tuning, with the plate being totally insufficient to function as a ground plane.

Additionally, with respect to Wong, the ring that the Examiner cites is part of a parasitic array and does not function in the same way as extending the skirts of a solid cone that is directly driven.

In short, nowhere is the claimed method of providing an ultra-wide bandwidth monopole antenna shown or taught, much less sizing and configuration to establish both a low frequency cutoff and a high frequency cutoff to provide a monopole antenna having at least a 10:1 frequency ratio.

In view of the above Amendment, allowance of the claims and issuance of the case are therefore earnestly solicited.

Respectfully submitted,

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